

REMARKS

This Amendment is in response to the Office Action dated January 23, 2008 in which claims 1-22 were initially rejected. Applicant respectfully requests reconsideration and allowance of all pending claims in view of the above-amendments and the following remarks.

I. PRESENT APPLICATION

The present application relates to the data transmission in the form of data stream(s), made up each one of elementary stream units (or packets). The aim of an embodiment is to optimize the processing of these stream units when they are dependent of preceding stream units in the same stream, or in another stream.

In known techniques, an important difficulty is that of synchronization, when the transmission is made in an asynchronous way. In this case, some stream units emitted after can be received before previously emitted ones. In such a case, one cannot process a received unit of stream, if it is dependent on a preceding unit of stream not yet received.

Specific protocols were thus developed to synchronize streams. That can however prove to be insufficient, or at the very least insufficiently efficient. Even in the presence of synchronized streams, it can miss a stream unit (which is used for example as a basis for a sequence of images, or which contains a decoding key), making it impossible to process the whole stream.

An embodiment of the invention thus proposes a new and inventive approach of synchronizing the elementary stream units. The streams themselves are not synchronized.

Furthermore, en embodiment of the invention provides a logical system of synchronization, or linking of the stream units (different and complementary of a simple numbering of the stream units), allowing to facilitate the management of the stream units, to limit the processing in terminals, and to improve quality of restitution.

According to en embodiment of the invention, one thus provides, in at least units, pointers, pointing towards (i.e. designating) at least another stream unit (of the same stream or of another stream) likely to be received previously, so that a treatment of the aforesaid unit of stream is carried out only if the former unit were received.

The present application thus proposes, in other words, a “back” synchronization, carried out on the level of the units of stream: the pointer allows synchronization with the pointed stream unit.

II. – CLAIM REJECTIONS

Claims 1-22 were rejected as being allegedly anticipated by OKURA (U.S. Publ. 2001/0027468).

Claim 22 was rejected as being allegedly unpatentable over OKURA (U.S. Publ. 2001/0027468) in view of Herrmann (U.S. Patent No. 6,606,329).

A. **OKURA, U.S. 2001/0027468**

1. Summary

This document relates to the transmission of streams made of data packets. More precisely, this document relates to the dynamic management of the dependencies between several streams.

In order to achieve this dynamic management, this document presents a technique of transmission of data streams, which uses sequence numbers associated to packets. In other words, each packet has a number, and it should not be processed if previous packets, having a lower number, have not been received.

2. Relevance of OKURA document

a) **Different Solution**

This document aims to solve a similar in streams made as the one solved by the present application. Indeed, it aims at ordering streams units, not synchronising them.

As a matter of fact, an embodiment of the present invention applies on a different level, by introducing the pointers into the stream units. Then, a different, simpler and more effective result is obtained. The technique suggested in **OKURA** only allows ordering the stream units (through the use of a ‘control portion’) and not to decide synchronise them or to synchronise the entire streams.

The aim of the ‘control portion’ is to control the composition process portion, controlling

the composition process portion to resolve an error in the scene displayed that is attributed to non-arrival of scene description information provided to describe the scene (*page 1, [0022]*) by using simple sequence numbers.

According to **OKURA**, stream units are numbered. In other words, it is possible to verify that previous stream units have been (or not) received, and to re-order the stream units received. In return, this method does not allow verifying that a very stream unit necessary to process a set of other stream units has been received, such as:

- a stream unit containing an I frame, in a stream containing I and P frames;
- a stream unit of another stream containing a decoding key;
- a stream unit of another stream containing audio data to be associated with video data of the considered stream unit.

According to an embodiment of the present invention, the stream unit will comprise a pointer, pointing to the specific other stream unit, which should have received to allow its decoding. This embodiment does not provide for a unit number, but provides for pointers, designating other stream units.

In other words, **OKURA** provides for a labeling of each stream unit. An embodiment of the present invention provides for pointers, pointing e.g. on these labels. The way these pointers are designed and used are not disclosed nor suggested in **OKURA**, which only provide for control of the order of the stream units.

If the present invention was adapted to **OKURA**, it would be necessary to add into at least some stream units a further field for a piece of information (pointer) giving the identifier (e.g. the number) of a stream unit which is necessary.

For example:

Stream units according to **OKURA**:

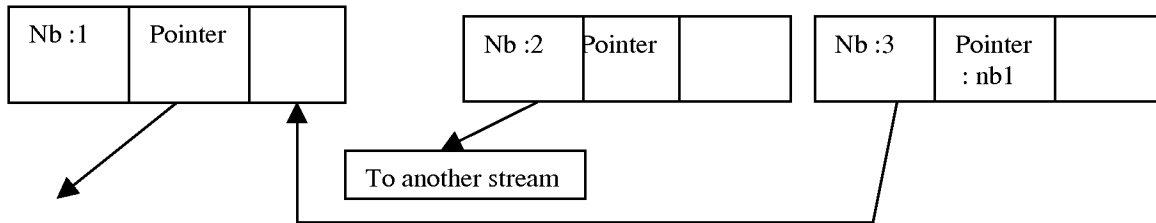
Nb :1	
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Nb :2	
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Nb :3	
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Allow reordering

Stream units according to an embodiment of the invention:



Allow processing of number 3 if number 1 was received
(i.e. nb3 is synchronized with nb1)

In other words, **OKURA** could be compatible with the invention (which may use the numbers to define the pointers). However, the numbers are not pointers. Pointers are other pieces of data, having a distinct and non obvious function.

b) **OKURA does not disclose nor suggest such pointers, but only labels (sequence numbers) for stream units.**

Therefore, the claimed invention is clearly new, in view of this document, and non obvious. As a matter of fact, a simple numbering of units cannot be compared to the introduction of pointers into the stream, because a sequence number only allows ordering the units and does not carry the necessary information permitting to organise a decoding process, and notably to verify that a specific, well identified, necessary stream unit (in the same stream or in another stream) was duly received.

OKURA allows checking that all preceding stream units were received. But, an embodiment of the present invention allows checking that a specific, well identified, necessary stream unit was received (so that the current unit may be processed, even though some previous units were not received). This is not possible according to **OKURA**.

B. Herrmann (U.S. 6,606,329)

1. Summary

This document deals with a demultiplexing device for demultiplexing coded data divided in access unit (accessible portions). This demultiplexing device is built in a general form to allow integration with a decoder.

2. Relevance of Herrmann document

According to the Examiner, this document is not relevant to the main claim but only to claim 22 when combined with the document OKURA.

It has been shown previously that document OKURA is not relevant as it does not provide for pointers and does not propose any synchronisation procedure of the units of the streams (but an ordering of the whole stream).

The OKURA document does not disclose any information about this aspect.

Consequently, claim 1 is new and non-obvious in view of the suggested combination. Therefore, claims 2-15 and 22, which depend on claim 1 are novel and non-obvious.

C. **Conclusion**

OKURA is not relevant toward claim 1 and its dependent claims of the present application.

As a matter of fact, OKURA does not disclose pointers, but unit numbers, or labels. Moreover, it concerns synchronisation between streams and do not disclose nor suggest the introduction of pointer into the stream units, allowing synchronization at the unit level, to allow the terminals to decode the streams more efficiently.

Indeed, OKURA only proposes a classification of the units, intended to reorder them latter, if they were not received in the chronological order. It cannot be assumed that a number of sequence is identical to a pointer intended to point a particular unit of a stream (distributed at an unspecified place of current stream, or another stream), and less still to such a number provides the same results that the pointer of the present invention.

The classification of the units, according to OKURA (see [0125], page 7) is a sequential classification, the purpose of which is simply to allow that considered stream is presented without shift. That corresponding clearly to the former art recalled in the patent application discussed (page 12, "Multimedia Synchronisation").

As indicated lines 19 to 27 of this page 12, the present invention does not attempt to synchronize the restitution of a stream, but to hold account, for example in the case of a hierarchical coding, several levels of enrichment. In other words, it is not a question to implement a simple control of an order of reception of the packages of a stream, but to manage a logical dependence between the units of the stream to be decoded (see page 12, lines 27-29).

An embodiment of the present invention makes it possible to solve this problem, by implementing pointers pointing towards one or more unit(s) of stream likely to be received previously, in order to carry out a processing only if it is checked that this unit of stream was received. The implementation of these pointers is independent of a sequence classification, and besides compatible and complementary with this classification. One will be able indeed to implement the pointers on units of flow particular necessary, as shown in the various examples discussed in the patent application, and in addition to manage the presentation of a video or audio stream, according to the technique of OKURA, also mentioned in paragraph "Multimedia Synchronisation" of the patent application discussed.

One will in addition note that the implementation of pointers on stream units is a fully new and non-obvious approach.

Accordingly, Applicant respectfully requests that the claim rejection be withdrawn and that the application be allowed to issue.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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